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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,850	12/31/2003	John Alan Lawton	102456-40307482	2808
909	7590	04/05/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			HAMILTON, CYNTHIA	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	

1752

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/748,850		LAWTON, JOHN ALAN	
	<b>Examiner</b>		<b>Art Unit</b>	
	Cynthia Hamilton		1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/3/2004</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. The Petition filed November 4, 2005 has been granted. In view of this, the examiner has fully considered applicant's Information Disclosure Statement filed December 3, 2004 and recognizes the oldest possible effective filing date for this application to be July 10, 1998, which is the filing date of U. S. application SN 09/113,271. In view of this recognition, the rejections of paragraph 4 in the Office Action mailed October 7, 2005 are dropped as the prior art in question depends upon SN 09/113,271.

2. Claims 1-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,287,748 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because instant applicant's claims are broader than the Patent claims are. Thus, instant applicant's claims are anticipated by claims 1-12 of the Patent. See particularly See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 UAPQ2d 1934 (Fed. Cir. 1990). See particularly MPEP 2144.05. "[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is 'anticipated' if one of them is in the prior art." *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (citing *In re Petering*, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962)).

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection

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is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-4 and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinman et al (EP 0 822 445 A1) as evidenced by English translation PTO 2000-716.

Steinmann et al disclose stereolithographic compositions within the range of the instant compositions wherein 40% of epoxide material is the overlap range with the composition of instant claims 1-4. no specific Examples of Steinmann et al use 40% epoxide. The amount of hydroxyl group compound in Steinmann et al is up to 40%, thus the equivalents of -oh and epoxy groups would also overlap those in instant claims 7-9. In the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art a prima facie obvious case of exists. See particularly, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ 2d 1934 (FED.CIR. 1990) and MPEP 2144.05. Thus, wherein there is an overlap of percentages of components in Steinmann et al with instant compositions, they are made prima facie obvious as useful in the process of forming articles by stereolithography and have the added property of low water absorption as a cured material. The processes of Steinmann et al are the same as set forth in claims 10-15 and make articles which can be cured at

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various stages to obtain the final conditions set forth as intended for the article to be made by the process. Applicants do not set forth the instant processes in such a manner as to make clear whether the listed properties are the result of the process set forth or are just part of the steps needed to make the article which will have intended properties set forth. Thus, the examiner in order to take the broadest reasonable interpretation of the claim language finds the article's properties are the final product beyond that obtained at the end of the process steps set forth. Thus, the article limitations are not clearly part of a result of the process set forth in the claim language. It is only required that the article resultant of the steps be able to become an article with the properties claimed.

5. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinmann et al (5,476,748). Steinmann et al disclose compositions like those of instant claims 1-4 and 6-9 with the exception that the ranges of components are not the same. However, they do overlap each other at 40% by weight of epoxide containing material. The other ranges are the same or encompassed by the instant ranges. The equivalencies of -OH and epoxy groups are held inherent in these overlapping ranges. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. See particularly *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (COPPA 1976); *In re Woodruff*, 919 F.3d 1575, 16 USPQ 2d 1934 (Fed. Cir. 1990) and MPEP 2144.05. Thus, herein there is an overlap of percentages of components in Steinmann et al with instant compositions they are made prima facie obvious as useful as compositions for producing three-dimensional objects via stereolithographic processes wherein little or no curl is produced and good mechanical properties are obtained in green state and after full cure. See particularly in Steinman et al, col. 1-2, col. 4,

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lines 10-22, col. 9, lines 59, to col. 10, lines 23, col. 10, lines 58, to col. 11, lines 16 and

Examples. The examiner notes the physical properties in the instant claims are not related clearly to the instant compositions but instead to the product of the intended use of the compositions. Further since different tests, i.e. DIN tests, were made by Steinmann et al, the physical properties are not clearly outside those of the instant application, thus the closes prior art has not been used in comparison.

6. Claims 10, 12 and 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sitzmann et al (6,054,250). The processes of Sitzmann et al set forth in the paragraph bridging col. 6 and 7 have the same steps as the instant process and when using the examples 9 and 12 appear to yield a product with essentially the same physical properties or the ability to obtain the same physical properties. Thus, the processes set forth anticipate the instant processes of claims 10, 12, 14 and 15.

1. The disclosure is objected to because of the following informalities: On page 17, lines 10-12, "acrylic" is defined by  $-\text{CH}=\text{CR}^1-\text{CO}_2\text{R}^2$  but all the examples have  $\text{CH}_2=\text{CR}^1-\text{CO}_2-$  groups with the open valence being on the other side, the alcohol side of the ester of the "acrylic" group,. The examiner believes this is a minor problem with the "acrylic" with the undefined valence at the end is in error. There is no indication that groups like  $\text{ph}-\text{CH}=\text{CHR}^2-\text{CO}_2-\text{R}^2$  are intended here.

Appropriate correction is required.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In lines 12-22 of claim 1, reference is made to "... the proviso that upon exposure to actinic radiation an article is produces having the following properties..." but it is not clear (1) what is exposed to actinic radiation and (2) how the photosensitive composition plays a part in the formation of the article. Does it form a mold for the article? Does it cover the article? Is it the uncured material used to form the article? None of this is clear from the claim language. There is no connection of the photosensitive composition with the process given or article formed. It is not clear from the claim language how these properties limit the claimed composition in any manner. The same problem is found in claim 8.

4. Claims 2 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear here what is claimed. Are these limitations to "the article" somehow related to the composition? Are these intended properties of the article directed to intended uses of the composition? It is not clear here how these claims further limit the invention of claim 1.

5. Claims 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants set forth a process of making an article in steps 1 to 5 then require that the article have four properties. There is no clear indication as to when the article has the four properties. That the steps given do not result alone in an article with the properties is clear in

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that in all examples in the specification wherein all properties are obtained, there are further essential steps required. See particularly page 33 as below:

20 In general, the three-dimensional article formed by exposure to actinic radiation, as discussed above, is not fully cured, by which is meant that not all of the reactive material in the composition has reacted. Therefore, there is often an additional step of more fully curing the  
25 article. This can be accomplished by further irradiating with actinic radiation, heating, or both. Exposure to actinic radiation can be accomplished with any convenient radiation source, generally a UV light, for a time ranging from about 10 to over 60 minutes. Heating is generally  
30 carried out at a temperature in the range of about 75-150°C, for a time ranging from about 10 to over 60 minutes.

then page 35 the following:

→ The exposures used to create the tensile and Izod impact test parts are given in Table 2. Unless otherwise indicated, all parts were fabricated using an Argon Ion laser operating with an output of 351 nm.

5 After the parts were formed, they were cleaned in a solvent, allowed to dry and then fully cured. All parts, except the Somos® 2100 part, were given a UV postcure for 60 minutes in a Post Curing Apparatus, manufactured by 3D Systems, Inc. (Valencia, CA). The Somos® 2100 part was  
10 postcured in an oven for 30 minutes at 150 degrees C then UV postcured for 30 minutes.

All tensile properties were measured according to ASTM Test D-638M. For the Somos® samples, the temperature and humidity were controlled as specified. The temperature and  
15 humidity of the Example parts were not controlled during testing. However, the temperature was approximately 20-22°C and the humidity was approximately 20-30% RH.

The impact strength of all the samples was measured by the knotted Izod test, according to ASTM Test D-256A.

20 The physical test values for polyethylene were obtained from various sources. The values of Tensile Stress at



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Thus, the claim language is vague with respect to the connection of article properties to process steps.

6. Claims 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no clear antecedent basis for “the exposure energy” in claims 13-14.

7. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. What is meant by “increasing the exposure energy” in claim 14? Is this a modification of the steps or an added exposure later after the claimed process?

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Applicants presented no arguments with respect to the rejections remaining in this application. The only change made was to the rejection in view of Sitzmann et al . The statute

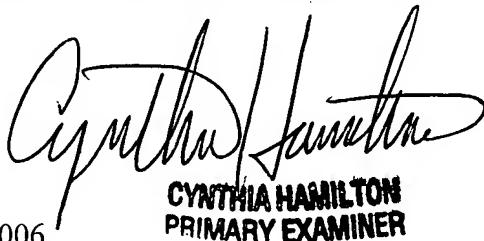
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changed from 35 USC 102(b) to 35 USC 102 (e) due to the amending of the application data sheet.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**CYNTHIA HAMILTON**  
**PRIMARY EXAMINER**

March 30, 2006

Cynthia Hamilton  
Primary Examiner  
Art Unit 1752